Sphærophyma Simoni. Rotundata, valde convexa, flava, nitida, oculis nigris, femoribus posticis piceis; thorace sat crebre tenuiter punctato; elytris tenuiter punctato-striatis, punctis in striis confuse dispositis, interspatiis planis. Long. $1\frac{1}{2}$ lin.

Hab. Queensland, Rockhampton.

Eyes large, black, occupying a considerable portion of the face; antennæ nearly contiguous at their insertion, being only separated by the linear carina, which extends downwards across the large triangular clypeus, and nearly reaches the anterior border of the latter; encarpæ slightly raised, ill-defined. Thorax nearly three times as broad as long; sides very obliquely converging from base to apex, anterior angles thickened, slightly produced, very obtuse, hinder angles rounded; basal margin oblique and bisinuate on either side, the median lobe slightly produced, broadly and obtusely rounded; surface rather closely but finely punctured. Elytra much broader than the thorax, the shoulders broadly rounded; upper surface very finely punctate-striate, the punctures (in some specimens) piceous; interspaces plane, impressed with punctures equal in size to those on the striæ themselves; outer margin broadly dilated, irregularly punctured.

This insect, like the species belonging to Motschulsky's genus *Argopistes*, has quite the facies of a *Coccinella*.

Observations on British Polyzoa. By Charles William Peach, Esq., A.L.S. &c.

[Read June 7, 1877.]

(Plate XXIII.)

Scrupocellaria scruposa.—Although this is common and well known, I am able to add a little to its history. On the 10th of June, 1876, I got a nice specimen at Newhaven, on a sponge (*Halichondria panicea*) from the Firth of Forth. From a desire to know how it moored itself to this soft body, I carefully examined it, and cut open the sponge, and found, as I thought, curious sponge-spicules, differing from all I had previously seen. On tearing the *Scrupocellaria* from the sponge, I at once saw what I took for spicules were actually the "tubulous root-fibres" of the *Scrupocellaria*; here, then, was a new fact to me. Hitherto I had always considered these "tubulous root-fibres" as smooth, with a disk, for adhesion to

any thing, at the lowest end; in this case they were armed with stout hooked spines where they were buried in the sponge, the points of the hooks bent towards the zoophyte, like the flukes of an anchor pointing towards the bow of a ship when the cable is stretched tight. These hooked spines are shaped like the thorn of a rose-tree, and surround the "root-fibres" in a rather irregular manner, and when dragged out of the sponge they hold in their grasp numbers of the sponge-spicules; this at once explained why these "root-fibres" were armed with hooks, and the points bent towards the zoophyte (see Pl. XXIII. fig. 1).

In March of the present year (1877) I got another specimen from the same locality, and found that the spines &c. were constant under similar circumstances. Feeling much interested in the discovery I resolved to follow it up, and fortunately turned up from my hoards a specimen of *Canda reptans*, collected in Cornwall before 1849; it is also attached to a sponge. On examination it shows similar *hooked spines* on the "tubular root-fibres" (fig. 2). In the hope of confirming this with a Scotch specimen I got *Canda reptans* from Newhaven, unfortunately not on a sponge, but on *Flustra foliacea*: here the hooks are absent; but the tips of the "root-fibres" are furnished with short radiating processes spread out at right angles, and from these, short disk-like processes are inserted into the openings and body of the cells of the *Flustra*, thus giving a firm grip on this larger fan-shaped and firmer support, and enabling the zoophyte to ride safely in a storm (see fig. 3).

Here, then, we have curious instances of things low (but are they low? of course I hope that you will take this by comparison only) in the scale so well adapting themselves to changed circumstances as to secure their safety and preservation. In no work on *British Zoophytes* can I find any notice of these hooks. Prof. Busk has figured, in the 'British Museum Catalogue of Marine Polyzoa,' part 1, pl. xxiv., a *Scrupocellaria Macandrei*, from the coast of Spain, and described it at page 24 as having "*Radical tubes hooked*;" and at page 25 he mentions *Scrupocellaria ferox*, from Bass's Straits, as "hooked like *S. Macandrei*." These instances, however, are not *British*. I hope to follow out this discovery when the weather becomes settled and warmer.

Eschara Skenei, var. *tridens*, Busk.—Although I have known this variety for many years, it is only a short time ago that I was aware of Professor Busk's paper in the 'Magazine of Natural

History,' 1856, in which he has figured and described the above named from Norway and Finmark, collected by the late Mr. McAndrew. In 1860 I obtained at Wick, N.B., a specimen from a fisherman's line hooked up from deep water off the Caithness coast in 30 fathoms. In the same year I got a second specimen at Latheron Wheel, from the same locality, also from a fisherman's line. I procured a few more (three or four) specimens during my residence at Wick; however, they are very rare. All of them answered to Mr. Busk's description, with one exception; this, I fancy, he suspected, for he writes "*unarmed*?" in his description. Mine are armed with *two delicate spines on the distal lip, and when viewed from the front show as if there were one on each side of the central rostrum* (see Pl. XXIII. fig. 4); and thus his note of interrogation was warranted. These spines are generally seen on the last-formed cells, rarely on the central ones; they are so very delicate, and thus easily knocked off. The common form occurs off Caithness; in fact at every part of the east coast of Scotland where I have resided. I have one much worn specimen of the variety from the Out Haaf of Shetland, dredged by Dr. Gwyn Jeffreys in 1864. This, then, is now added (for the first time I believe) to the British list.

Eschara rosacea.—This is another species described in the same paper as the above from Norway, by Prof. Busk, and was first added to the British list by the Rev. A. M. Norman, and described by him in vol. viii. of the 'Microscopical Journal,' pl. vi. figs. 10–21 ("On Stones and Shells from Loch Fyne"). I have the pleasure of recording it from a new locality, dredged off Shetland by Dr. Jeffreys in 1864, in from 80 to 100 fathoms, and recognized by myself as new. The first specimen I found I sent to the late Mr. Alder, who could make nothing of it, from its being nearly covered by two species of well-known *Lepralia*; very little of the original could be seen. Not being able to get out last year (winter of 1876–77), I amused myself by looking over sand and broken organisms, and found two more small, well-worn, but characteristic specimens, showing the cells &c. sufficiently well for identification. The specimens are all unattached. This, then, is an addition to the fauna of the east coast of Scotland.

Escharastellata, Peach, n. sp. (Pl. XXIII. fig. 5).—This is another specimen dredged by Dr. Jeffreys in 1864 off Shetland; I noticed it at the time we were there, and fixed it on a ticket, with locality

and date; it occurred in sand amongst many fragments of *Eschara* of various kinds. Up to December last it had quite escaped my memory, when it turned up again, and was instantly recognized. So far, it is the only specimen of it I have seen, nor can I find any thing like it noticed in any work I have access to, or gain any information about it from other naturalists. I am, however, most anxious to learn all I can about it. I have provisionally named it; it is evidently a piece of an *Eschara*. It is flattened on the sides, with cells on both sides. In section the cells may be seen at the ends in two rows in the centre, separated by a thin division, the side walls of the cells resting on the centre of the body of each opposing cell; these cells are surrounded by a border of striped coral matter, as in a section of *Eschara Skenei*, &c. The cells are arranged in an irregular quincuncial manner, running obliquely all round the stem. The mouth of the cell is slightly raised, and slopes gently downwards; the border thick, with a slit-like opening in front extending a short way down the cell; it is also surrounded by buttress-like projections, and in the spaces between them are perforations, apparently open; the whole of the cells are thus surrounded, giving the specimen a stellate appearance, and thus the specific name (see sketch modified by Mr. Busk from specimen, fig. 5, forwarded him). It has a fresh appearance, like that of the other well-known *Eschara* found with it, a little abraded, but has not a semifossil look*.

Discopora meandrina, Peach, n. sp. (Pl. XXIII. figs. 6–8).—This is also from the Out Haaf, Shetland, dredged by Dr. Gwyn Jeffreys in 1864. It is generally attached to *Eschara*, especially *E. cervicornis*, rarely on stones or shells, never in an adnate manner; for when first fixed it forms a thin plane platform; this is thickened and extended as the polypidom increases, and its edge is turned upwards or downwards, spreading and accommodating itself to the rounded stem and all the sinuosities of its support, even to bending round so as almost to conceal it, leaving, however, a space between it and its support (see fig. 6, *dm*). The upper face is waved and undulating, and reminds me of a contoured map, showing the hills and valleys. It is traversed by ridges of cells, surrounding in a meandering way depressed smooth spaces like little fields; these ridges and cells and spaces give a meandering look to the whole, like the brain-coral. These little fields are

* [This is probably a variety of one of the different species confounded with the name *E. cervicornis*.—G. B.]

pitted with small hexagonal depressions. The other parts of the specimen, where the ridges run, have also these hexagonal depressions, but larger, with basin-like depressions, and at the bottom are perforated with a central opening; the ridges are also larger and higher: the mouths of the cells are much raised, with a long pointed mucro, the point often hollow and bending over a little, like the tip of the beak of a bird (fig. 7); these cells are in the centre of the ridges, and when denuded of the mucro form a chain of elongated cells (fig. 8); they are not in straight lines, but meander over the face of the specimen, accommodating themselves to the irregularities of the elevations and depressions by longer or shorter ridges.

It is pale cream-colour on the ridges, nearly white in the depressed spaces. I may remark that the mucro on the raised cells is never bifid or trifid, the rows of cells *always meandering* from its *earliest state*; nor does it rise into a dome shape, nor are the pores at the bottom stellate as in *D. hispida*. There is another peculiarity in it—that of repairing injuries and of laying a new layer of cells over the lowest series (specimen exhibited at the Society's Meeting). I have carefully examined the works of Johnston, Busk, Alder, Couch, Hincks, Smith, &c., and find nothing altogether like it; in fact the difference between it and *D. hispida* is so great that I feel justified in making it a new species. After all, should it be thought that I am wrong, I shall still consider it a good variety, and thus then it will be *D. hispida*, var. *meandrina*.

Domopora truncata, Jameson.—This is, I believe, the true *D. truncata* of Jameson and Forbes, but not of Fleming nor Busk. My specimens were brought up by the fisher's lines from about 80 to 100 fathoms, in the Out Haaf, Shetland, in 1864; they are on rather large rounded stones, and from the same locality as those got by Jameson and Forbes. Fleming describes his as "about 1 inch in height . . . the head stellate." Busk says, "Zoarium simple or lobed (proliferous); cells disposed in twelve to fourteen *elevated biserial rays* on the rounded extremity of the trunk or lobes," and in his pl. xxxi. of the 'Catalogue of Marine Polyzoa,' part iii. 1875, in several figures has shown the "proliferous" state and elevated truncate biserial rays. The figure of Forbes's specimen given in vol. ii. of the second edition of Johnston's 'British Zoophytes,' plate xxxiii. figs. 1, 2, and the description given in vol. i. p. 271, of the same work, help to confirm my

opinion; I quote only the following:—"*Tubularia truncata* has been described as *being branched*, which it *never truly is*; but two or three individuals may grow on a primary polypidum so closely together that they coalesce at the base, and dying, new corals rise from the dead individuals, and thus give the polypidum a branched or nodulous aspect . . . It is a solid coral."

Forbes's specimens were about two tenths of an inch in height, mine never more than five tenths of an inch.

The cells are all nearly of the same shape and radiate in the same manner as seen in *D. stellata*, are more polished, and altogether the walls are much thicker; in fact the polypidom is altogether so, it never rises into branch-like forms, nor do the largest cells on the upper part of the ridges become truncated. I have seen four low rounded tips side by side on the earliest base: the base is thin, and at first slightly pitted and firmly attached to the stone; it soon becomes strongly reticulated and met by a raised step-like ridge, in the vertical front of which are groups of rather large and tall cells, three or four in a group, forming a lace-like border, crenulated on the upper part, and from these crenulations spring the thirteen or fourteen rounded rib-like rows of cells which run up to near the top, where they die out and leave a slight depression. From the broad thin base and the pretty sweep the ribs take, with the rounded top, I am reminded of the round-polled hat so fashionable ever since the late Prince Albert wore a miner's "hat-cap" when with the Queen in the underground workings of the Royal Restormal Iron-Mine, at Lostwithiel, Cornwall. I may mention that this species is much rarer than the next and, as far as I have seen, found only on stones. The one figured by Forbes was also on a stone. It occurs to me that some may think that the dwarfed state, thick walls, rounded ribs, and total absence of the truncated crown of vertical cells of this species might be caused by the stones being rolled about in storms or by tides. Such, I am convinced, could not be; for in addition to the *Domopora*, I got from the same stones my finest and best examples of *Eschara cervicornis*, and most beautiful examples of *Hornera borealis*, all in a most perfect state, with every branch intact, proving tranquillity in their home.

Domopora (*Defranceia*) *stellata* (Goldf.).—This beautiful species has been confounded with the true *Domopora truncata* of Jameson, Forbes, and Fleming. It is certainly nearest to Fleming's description,

"about an inch in height . . . stem round, branched, ending with enlarged globular heads, radiated with plates of united vertical cells." Busk has well figured and described it in the 'Annals and Magazine of Natural History,' 2nd series, vol. xviii. p. 36, pl. i. fig. 9, from the coast of Norway, and in his 'Catalogue of Marine Polyzoa,' part iii. page 35, pl. xxxi. figs. 1, 2, from Shetland, as *Domopora* (*Defranceia*) *stellata*. His description is, "Zoarium simple or lobed (proliferous); cells disposed in twelve to fourteen elevated biserial rays on the rounded extremity of the trunk or lobes."

It is a variable species, at times rising as a single lobe, crowned with radiating cells on the upper part of the rounded extremity; when this crown is broken off, a funnel-shaped depression is often left, and this then forms the *Corymbipora fungiformis* of Smitt.

From this simple state it by successive growths often becomes "proliferous," and thus in appearance branched; the crowns of erect truncated cells are often destroyed, and at times side by side one tip is shorn of its crown of biserial ridges, whilst the other has its decoration perfect. To show how protean it is, I have sent a series of specimens (exhibited at the Meeting) with from one to thirteen of these star-crowned parts, and from which it so well takes its specific affix. On one of the specimens marked there is amongst the raised cells what I believe to be an *ovarian vesicle*. I have never before seen such noticed on this genus.

I also send a specimen (likewise exhibited at the Meeting) showing the internal structure, and another rubbed down and placed on glass for that purpose.

It will also be seen that some of my specimens are splendid ones, better than any I have seen figured; they give an excellent idea of the size and variety of forms it assumes, and as well how greatly it differs from the real *Domopora truncata*.

Defranceia lucernaria.—This pretty cup-shaped Polyzoon I first obtained from sand dredged by Dr. Jeffreys in the Out Haaf of Shetland in 1864. I found but one or two specimens. In 1866 I got three or four more in sand, dredged by the same gentleman on the west coast of Scotland. From the fishermen's lines at Wick, N.B., I met with one or two from about 30 fathoms. Unfortunately all are more or less rubbed, and they do not show so distinctly as could be wished the characteristic markings, so as to render it positive that they agree altogether with those figured by

Mr. Busk in part iii. of the British-Museum 'Catalogue,' pl. xxxiii. If they prove to be Sars's species they are an addition to the *British list*.

DESCRIPTION OF PLATE XXIII.

Fig. 1. *Scrupocellaria scruposa*, obtained from the Firth of Forth, 10th June, 1876, attached with hooks to the sponge *Halichondria panicea*, Johnst. *s*, sponge-spicules; *h*, hooks of the root-fibres of *S. scruposa*. Magnified.

Fig. 2. *Canda reptans*. A small portion collected in Cornwall in 1848, and in which I detected the hooks attaching it to a sponge, 14th March, 1877. Also considerably enlarged.

Fig. 3. A fragment of *C. reptans* on *Flustra foliacea* (*f*), Firth of Forth, March 1877. Hooks absent, but grappling-roots (*gr*) present. Magnified.

Fig. 4. A small portion of *Eschara Skenei*, var. *tridens*, Busk, obtained off Wick (N.B.), 1st March, 1864. Greatly magnified.

Fig. 5. *Eschara stellata*, Peach, n. sp. Specimen dredged by Dr. J. Gwyn Jeffreys at Shetland, 1864. Sketch partly from specimen, a drawing of my own, and from an old original one by Mr. Busk.

Fig. 6. *Discopora meandrina*, Peach, n. sp. Obtained from fishermen's lines in Shetland, 1864, from a depth of 80 to 100 fathoms. The examples (*dm*) of this species shown in the specimen are attached to a piece of dead coral, and are enlarged about 3 times nat. size.

Fig. 7. A highly magnified profile view of some of the cells of *D. meandrina*, showing the elongated beak-like mucro.

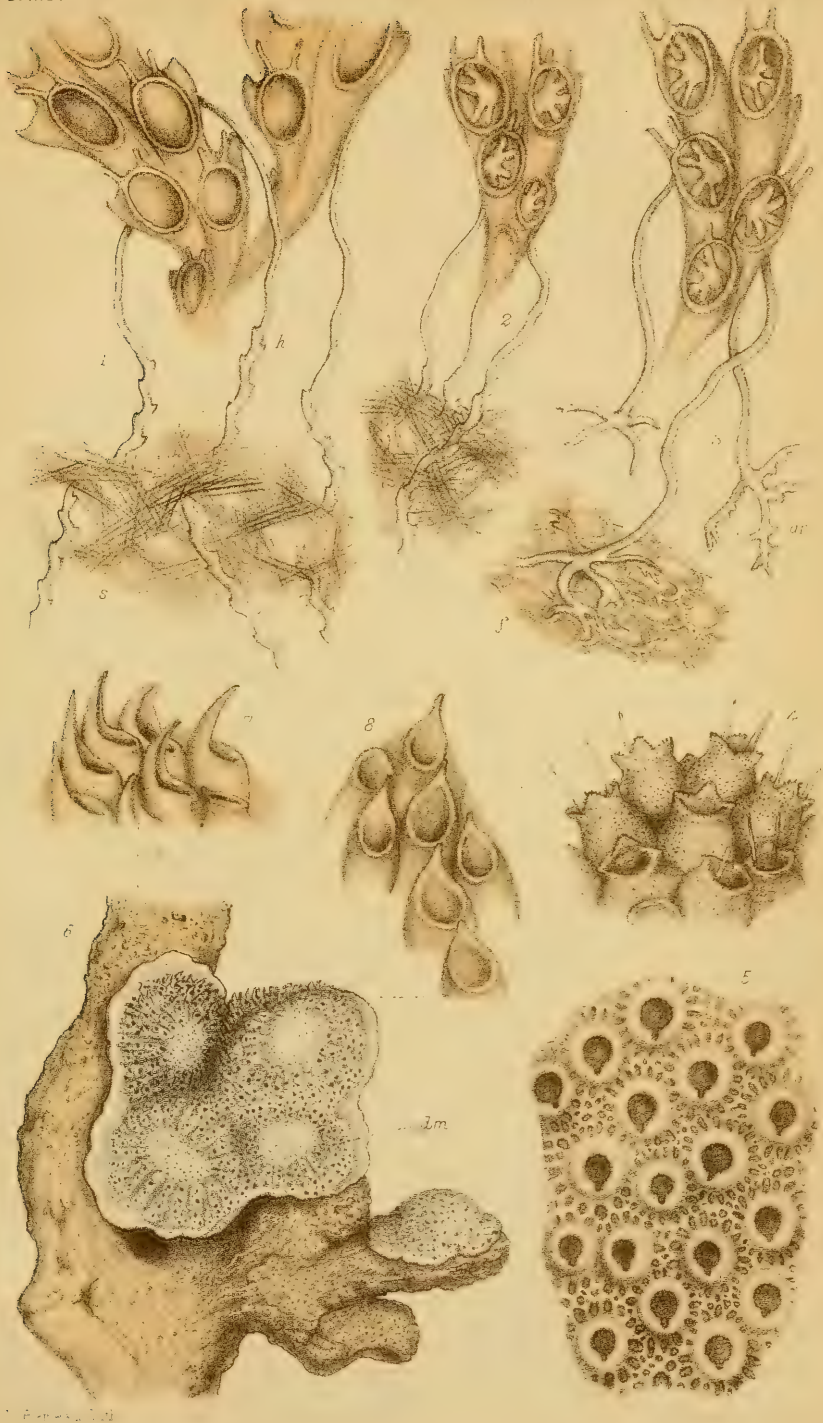
Fig. 8. A view from above of a chain of the open-mouthed cells of the foregoing specimen, also much enlarged.

Contributions to the Ornithology of New Guinea. By R. Bowdler Sharpe, F.L.S. &c.—Part. IV. On the Collection of Birds brought by Mr. Octavius C. Stone from South-eastern New Guinea.

[Read June 21, 1877.]

The collection which Mr. Stone brought with him from New Guinea is probably one of the largest that has yet been made in the southern part of that great island; but, as in the case of the late Dr. James's consignments, the novelties found in it are very few in number; and it becomes more and more evident that South-eastern New Guinea cannot compare with the northern portion of the island as regards the richness of its avifauna.

Mr. Stone informs me that the collection now about to be described was formed by Messrs. Broadbent and Petterd, two well-known and experienced naturalists, and it is to this circumstance that the excellent preservation of the skins is due; but one misses



BRITISH POLYZOA